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ABSTRACT

These three questionnaires were developed to assess the attitudes of British secondary students toward scientific subjects as taught in their schools. Each questionnaire contains 33 Likert scale items with five choices ranging from "strongly agree" to "strongly disagree." The subjects of the inventories are: (1) physics, (2) chemistry, and (3) biology. Each test is divided into two parts, the first dealing with the role of the science in the student's life and the second concerning learning activities. Items in the three tests are identical except for reference to a particular science. (SD)

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PUPIL OPINION POLL

PHYSICS

The purpose of this questionnaire is to find out what you think about physics as it is taught in your school. The questionnaire contains a number of statements about physics.

We want to know what you feel and think about these ideas and whether you agree with them or not.

This is not a test and there are no right or wrong answers. We would like you to give your own opinion of each of the statements in the booklet.

Directions

Please fill in your name and the name of your school on the answer sheet. Then read the sample item below.

Sample item

I would rather read a book than watch television.

A	B	C	D	E
Strongly agree	Agree	Not sure	Disagree	Strongly disagree

Each statement is followed by five lettered alternatives, A to E which are used to indicate how far you agree or disagree with the statement. Thus, if you strongly disagreed with the statement you would mark alternative E as illustrated above.

Each statement in the booklet looks like the sample item. When you read each one carefully, also read each of the alternatives given below it. Then decide which ONE answer best fits your feelings and mark the box for that answer on your answer sheet. Please choose only one alternative for each statement and try to respond to every statement. If you mark a wrong letter by mistake, erase the mark carefully before putting in the correct one. Please do not mark the question booklet.

Do not think too long on any one statement. Give the first 'natural' answer as it comes to you. Try to answer every one of the items in the booklet.

SE020 532

PHYSICS IN MY LIFE

1. I enjoy physics lessons more than other lessons.

A	B	C	D	E
much	slightly more	about the same	less	much less

2. Two hours of work in a physics laboratory are more fun than a week of work in other subjects.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

3. There are too many facts to learn in physics.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

4. Physics lessons are a waste of time.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

5. I like to talk with people about new discoveries in physics.

A	B	C	D	E
very much	much	some	a little	not at all

6. I do well in physics.

A	B	C	D	E
very well	well	average	poorly	very poorly

7. I would like to be given a physics book or a piece of physics equipment.

A	B	C	D	E
very much	I would be pleased	it would be all right	I don't think I would like it	not in the least

8. My mother wants me to be a physicist.

A	B	C	D	E
very much	much	some	not sure	not at all

9. I would rather be a member of a 'pop group' than a member of a physics research team.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

10. I would specialise in physics if I had the chance.

A	B	C	D	E
definitely yes	very likely	maybe	not likely	never

11. I look forward to physics lesson.

A	B	C	D	E
always	most of the time	sometimes	seldom	never

12. I would enjoy school more if there were no physics lessons.

A	B	C	D	E
much more	slightly more	just as much	less	a great deal less

13. I should like to belong (or I like belonging) to a physics club.

A	B	C	D	E
very much	some	a little	not sure	not at all

14. Physics is just a load of technical terms which are hard to remember.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

15. I would like to work with people who make discoveries in physics.

A	B	C	D	E
all the time	most of the time	occasionally	seldom	never

16. I do physics experiments in my spare time about:

A	B	C	D	E
once a week	once a month	once every three months	once a year	never

17. I think the school should have more physics periods each week.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

18. I find physics difficult to understand.

A	B	C	D	E
extremely difficult	difficult	in between	easy	very easy

19. My father wants me to become a physicist.

A	B	C	D	E
very much	much	some	not sure	not at all

20. I should like to become a physicist.

A	B	C	D	E
very much	much	some	a little	not at all

LEARNING ACTIVITIES

21. I would much rather do experiments in physics than read about them.

A	B	C	D	E
always	most of the time	sometimes	seldom	never

22. I would rather do a physics experiment than listen to a lecture on the same topic.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

23. I want to learn for myself why physics experiments turn out the way they do.

A	B	C	D	E
very much	much	a little	not sure	not at all

24. It is fun to guess the outcome of physics experiments.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

25. It is the experiments in physics that make me understand it.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

26. Working in the physics laboratory is fun.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

27. Trying to solve a physics problem is interesting.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

28. I would rather work out how to do a physics experiment by myself than be told.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

29. I enjoy discussing physics problems raised in class with my friends.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

30. You can learn more from a physics text book than by doing experiments.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

31. Physics teachers always ask questions to which they know the answers.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

32. More physics equipment is needed in schools.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

33. Physics experiments demonstrated by teachers are more interesting than the ones you do for yourself.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

PUPIL OPINION POLL

CHEMISTRY

The purpose of this questionnaire is to find out what you think about chemistry as it is taught in your school. The questionnaire contains a number of statements about chemistry.

We want to know what you feel and think about these ideas and whether you agree with them or not.

This is not a test and <u>there are no right or wrong answers</u>. We would like you to give your own opinion of each of the statements in the booklet.

<u>Directions</u>

Please fill in your name and the name of your school on the answer sheet. Then read the sample item below.

<u>Sample item</u>

I would rather read a book than watch television.

A	B	C	D	E
Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree

Each statement is followed by five lettered alternatives, A to E which are used to indicate how far you agree or disagree with the statement. Thus, if you strongly disagreed with the statement you would mark alternative E as illustrated above.

Each statement in the booklet looks like the sample item. When you read each one carefully, also read each of the alternatives given below it. Then decide which <u>ONE</u> answer best fits your feelings and mark the box for that answer on your answer sheet. Please choose only one alternative for each statement and try to respond to every statement. If you mark a wrong letter by mistake, erase the mark carefully before putting in the correct one. Please do not mark the question booklet.

Do not think too long on any one statement. Give the first 'natural' answer as it comes to you. <u>Try to answer every one of the items in the booklet.</u>

CHEMISTRY IN MY LIFE

1. I enjoy chemistry lessons more than other lessons.

A	B	C	D	E
much	slightly more	about the	less	much less

2. Two hours of work in a chemistry laboratory are more fun than a week of work in other subjects.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

3. There are too many facts to learn in chemistry.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

4. Chemistry lessons are a waste of time.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

5. I like to talk with people about new discoveries in chemistry.

A	B	C	D	E
very much	much	some	a little	not at all

6. I do well in chemistry.

A	B	C	D	E
very well	well	average	poorly	very poorly

7. I would like to be given a chemistry book or a piece of chemistry equipment.

A	B	C	D	E
very much	I would be pleased	it would be all right	I don't think I would like it.	not in the least

8. My mother wants me to be a chemist.

A	B	C	D	E
very much	much	some	not sure	not at all

9. I would rather be a member of a 'pop group' than a member of a chemistry research team.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

10. I would specialise in chemistry if I had the chance.

A	B	C	D	E
definitely yes	very likely	maybe	not likely	never

11. I look forward to chemistry lessons.

A	B	C	D	E
always	most of the time	sometimes	seldom	never

12. I would enjoy school more if there were no chemistry lessons.

A	B	C	D	E
much more	slightly more	just as much	less	a great deal less

13. I should like to belong (or I like belonging) to a chemistry club.

A	B	C	D	E
very much	some	a little	not sure	not at all

14. Chemistry is just a load of technical terms which are hard to remember.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

15. I would like to work with people who make discoveries in chemistry.

A	B	C	D	E
all the time	most of the time	occasionally	seldom	never

16. I do chemistry experiments in my spare time about:

A	B	C	D	E
once a week	once a month	once every three months	once a year	never

17. I think the school should have more chemistry periods each week.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

18. I find chemistry difficult to understand.

A	B	C	D	E
extremely difficult	difficult	in between	easy	very easy

19. My father wants me to become a chemist.

A	B	C	D	E
very much	much	some	not sure	not at all

20. I should like to become a chemist.

A	B	C	D	E
very much	much	some	a little	not at all

LEARNING ACTIVITIES

21. I would much rather do experiments in chemistry than read about them.

A	B	C	D	E
always	most of the time	sometimes	seldom	never

22. I would rather do a chemistry experiment than listen to a lecture on the same topic.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

23. I want to learn for myself why chemistry experiments turn out the way they do.

A	B	C	D	E
very much	much	a little	not sure	not at all

24. It is fun to guess the outcome of chemistry experiments.

A	B	C	D	E
strongly	agree	not sure	disagree	strongly

25. It is the experiments in chemistry that make me understand it.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

26. Working in the chemistry laboratory is fun.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

27. Trying to solve a chemistry problem is interesting .

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

28. I would rather work out how to do a chemistry experiment by myself than be told.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

29. I enjoy discussing chemistry problems raised in class with my friends.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

30. You can learn more from a chemistry text book than by doing experiments.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

31. Chemistry teachers always ask questions to which they know answers.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

32. More chemistry equipment is needed in schools.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

33. Chemistry experiments demonstrated by teachers are more interesting than the ones you do for yourself.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

PUPIL OPINION POLL

BIOLOGY

The purpose of this questionnaire is to find out what you think about biology as it is taught in your school. The questionnaire contains a number of statements about biology.

We want to know what you feel and think about these ideas and whether you agree with them or not.

This is not a test and there are no right or wrong answers. We would like you to give your own opinion of each of the statements in the booklet.

Directions

Please fill in your name and the name of your school on the answer sheet. Then read the sample item below.

Sample item

I would rather read a book than watch televisica.

A	B	C	D	E
Strongly	Agree	Not sure	Disagree	Strongly Disagree

Each statement is followed by five lettered alternatives, A to E which are used to indicate how far you agree or disagree with the statement. Thus, if you strongly disagreed with the statement you would mark alternative E as illustrated above.

Each statement in the booklet looks like the sample item. When you read each one carefully, also read each of the alternatives given below it. Then decide which ONE answer best fits your feelings and mark the box for that answer on your answer sheet. Please choose only one alternative for each statement and try to respond to every statement. If you mark a wrong letter by mistake, erase the mark carefully before putting in the correct one. Please do not mark the question booklet.

Do not think too long on any one statement. Give the first 'natural' answer as it comes to you. Try to answer every one of the items in the booklet.

BIOLOGY IN MY LIFE

1. I enjoy biology lessons more than other lessons.

A	B	C	D	E
much	slightly more	about the same	less	much less

2. Two hours of work in a biology laboratory are more fun than a week of work in other subjects.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

3. There are too many facts to learn in biology.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

4. Biology lessons are a waste of time.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

5. I like to talk with people about new discoveries in biology.

A	B	C	D	E
very much	much	some	a little	not at all

6. I do well in biology.

A	B	C	D	E
very well	well	average	poorly	very poorly

7. I would like to be given a biology book or a piece of biology equipment.

A	B	C	D	E
very much	I would be pleased	it would be all right	I don't think I would like it	not in the least

8. My mother wants me to be a biologist.

A	B	C	D	E
very much	much	some	not sure	not at all

9. I would rather be a member of a 'pop group' than a member of a biology research team.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

10. I would specialise in biology if I had the chance.

A	B	C	D	E
definitely yes	very likely	maybe	not likely	never

11. I look forward to biology lessons.

A	B	C	D	E
always	most of the time	sometimes	seldom	never

12. I would enjoy school more if there were no biology lessons.

A	B	C	D	E
much more	slightly more	just as much	less	a great deal less

13. I should like to belong (or like belonging) to a biology club.

A	B	C	D	E
very much	some	a little	not sure	not at all

14. Biology is just a load of technical terms which are hard to remember.

A	B	C	D	E
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20. I should like to become a biologist.

A	B	C	D	E
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LEARNING ACTIVITIES

21. I would much rather do experiments in biology than read about them.

A	B	C	D	E
always	most of the time	sometimes	seldom	never

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strongly agree	agree	not sure	disagree	strongly disagree

23. I want to learn for myself why biology experiments turn out the way they do.

A	B	C	D	E
very much	much	a little	not sure	not at all

24. It is fun to guess the outcome of biology experiments.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

25. It is the experiments in biology that make me understand it.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

26. Working in the biology laboratory is fun.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

27. Trying to solve a biology problem is interesting.

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28. I would rather work out how to do a biology experiment by myself than be told.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

29. I enjoy discussing biology problems raised in class with my friends.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

30. You can learn more from a biology text book than by doing experiments.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

31. Biology teachers always ask questions to which they know the answers.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

32. More biology equipment is needed in schools.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

33. Biology experiments demonstrated by teachers are more interesting than the ones you do for yourself.

A	B	C	D	E
strongly agree	agree	not sure	disagree	strongly disagree

ANSWER SHEET

PUPIL OPINION POLL

NAME ..... SCHOOL .....

SEX .....

All answers to the items in the pupil opinion poll are to be marked on THIS SHEET, IN PENCIL. Take care that you mark your answers alongside the correct item numbers. If you do mark a wrong letter by mistake, erase the mark carefully before putting in the correct one. Any items with more than one letter marked will be discounted.

Item No.

Page 1

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E

Page 2

13	A	B	C	D	E
14	A	B	C	D	E
15	A	B	C	D	E
16	A	B	C	D	E
17	A	B	C	D	E
18	A	B	C	D	E
19	A	B	C	D	E
20	A	B	C	D	E
21	A	B	C	D	E
22	A	B	C	D	E
23	A	B	C	D	E
24	A	B	C	D	E

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25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
32	A	B	C	D	E
33	A	B	C	D	E